

REMARKS

In view of the above amendments and following remarks, reconsideration of the rejections contained in the Office Action of December 10, 2004 is respectfully requested.

In the Office Action, the Examiner rejected claim 49 as being anticipated by U.S. Patent 5,170,195 to Akiyama et al. (Akiyama). Further, claims 28-48 and 50-52 were rejected as being unpatentable over Akiyama in view of U.S. Patent 6,055,156 to von Gutfeld (von Gutfeld). However, it is respectfully submitted that the present invention, particularly as now amended in amended independent claim 28, and as claimed in new claims 53-56, clearly patentably distinguishes over both Akiyama and von Gutfeld.

Independent claim 28 now recites a computer comprising a casing having a display which is bordered by a frame. The frame is a passage arranged therein with a cooling fluid in the passage. The frame itself forms the passage for the cooling fluid, furthermore. In addition, a fluid-conducting communication is disposed between the passage and at least one electronic component.

Turning to the drawing figures, it may be seen that a housing 1 has a display 4 bordered by a frame 2. The frame 2 forms a cooling passage 5, the frame 2 itself forming the cooling passage.

As can be seen for example from Fig. 3, various electronic components 10 are mounted in the housing or casing. These include among other things a CPU and a motherboard 19. As for example illustrated in Figs. 4, fluid-conducting communication is disposed between the passage 5 and the electronic components 10 in order to be able to cool the electronic components 10. Preferably, the fluid-conducting communication allows at least for cooling of the CPU.

By providing the cooling fluid in the passage formed by the frame, the heat is allowed to be given off to the area surrounding the computer. To assist in this, ribs, for example, may be provided on the outside and inside of the casing.

The invention is also reflected by new independent claim 53. Please further note additional dependent claims 54-56.

By the above amendments, prior claims 49-52 have been canceled. Accordingly, the only remaining independent claims are claims 28 and 53.

Akiyama was cited as anticipating claim 49. It is noted that this claim has been canceled. This should not be taken as acquiescence to the anticipation of claim 49 by Akiyama, however.

In rejecting the remaining claims, the Examiner modified Akiyama with von Gutfeld. The Examiner alleged Akiyama to disclose a casing 12 having a display 40 bordered by a frame 12a, the frame 12a having a passage 18 with a cooling liquid 40, wherein the frame 12a itself forms a passage 18 for the cooling fluid 40. However, the Examiner noted that Akiyama does not teach the casing as part of a computer having the display. The Examiner cited von Gutfeld as teaching the provision of a casing 40 having a display 3 as part of a portable computer system. The Examiner concluded that it would have been obvious to one of ordinary skill in the art to modify the casing of Akiyama so that it be part of a computer system as taught by von Gutfeld to allow a cooling display of Akiyama to be utilized in systems requiring cooling, including portable or handheld computers. However, it is respectfully submitted that these references do not properly suggest the present invention.

First looking at Akiyama, it is noted that the cooling device of Akiyama includes a container 12. The so-called frame is a surrounding wall surrounding the container. However, the display 40 is mounted on the outside of the container. The display 40, which is a liquid crystal panel, is attached to a rear side of container 12 as described in column 3 of Akiyama.

It is noted that the liquid crystal panel of the system, as described in the Background of the Invention of Akiyama, is part of a projection system. Note the panels LC_b, LC_g and LC_r illustrated in Fig. 23, for example.

In comparing Akiyama to amended claim 28, Akiyama clearly does not relate to a computer. Further, it seems quite arguable whether there is even a frame bordering a display. In any case, however, it is abundantly clear that there is no fluid-conducting communication that is provided between the passage and at least one electronic component. The only electronic component, arguably, is the liquid crystal panel itself. The remainder serves as a cooling system.

Claim 53 similarly distinguishes over Akiyama. Note that claim 53 requires the frame to surround the display.

Von Gutfeld is directed to a computer case. The case is provided to be shaped in order to provide cooling of the computer's electronic parts. As can be initially seen from the abstract, the invention of von Gutfeld involves the formation of ribs, corrugations, slots as well as a plate attached to a bottom of the case by angled edges to allow a gap between the plate and the case bottom for trapping a heat insulating gas. Optional openings may also be provided in the angled edges.

Thus it may be seen that von Gutfeld relates to the structure of a casing and heat dissipating aspects such as ribs, corrugations and openings. This is all for the purpose of providing enhanced heat dissipation. It is particularly notable that, in addressing problems with computers such as laptops, von Gutfeld is specifically teaching that employing pipe arrangements is impractical for laptop computers, and thus essentially teachings away from the concept of the present invention. Specifically, it specifically teaches away from a fluid-conducting communication provided between the passage of a frame and at least one of the electronic components.

The Examiner's basic rationale for combining Akiyama and von Gutfeld is that the arrangement of Akiyama would help to cool the display of a computer such as in von Gutfeld. However, it is noted that the arrangement of Akiyama is directed toward a projection type display in which three liquid crystal panels are employed. This type of projection display is not the type that would be employed in a computer, especially a laptop computer, because of its size and complexity. Thus there is no real teaching of any possible combination of these two references.

Further, even if combined, they do not suggest a further fluid-conducting communication disposed between the passage of the frame and at least one of the electronic components in the casing.

The Examiner, in rejecting claim 39, further alleged that Akiyama in view of von Gutfeld discloses a computer that includes a fluid-conducting communication 18 between the passage and at least one heat exchanger 43 and the interior of the casing 40 of von Gutfeld. The passage 18 of Akiyama, however, is a part of the passage inside the casing that cools the display panel 40 in Akiyama. Reference number 43 of von Gutfeld is in fact a heat deflecting element or heat shield, as described at lines 43-44 of column 4. It is not, then, a heat exchanger. Further, it is not seen how the Examiner arrives at a fluid-conducting communication between the passage 18 of Akiyama and

the heat shield inside the casing of von Gutfeld. The Examiner's logic behind the combination is apparently the provision of the cooling arrangement of Akiyama to the display that would be used with a computer such as von Gutfeld. However, von Gutfeld is not addressing the display. Von Gutfeld is addressing the computer case itself. The display is elsewhere. If the Examiner is suggesting that the heat shield 43 be placed inside the passage 18 of Akiyama, then this makes no sense. There is no suggestion of placing a heat shield for a CPU inside the ethylene glycol environment of the cooling fluid of the cooling device of Akiyama. If the Examiner is suggesting that a communication somehow be formed for the ethylene glycol cooling fluid of Akiyama to the CPU or the heat shield in von Gutfeld, then this is also not suggested. Indeed, von Gutfeld specifically teaches away from pipe arrangements in the Description of the Related Art.

Accordingly, it may be readily seen that there is no suggestion whatsoever of the present invention as claimed in claims 28 and 53.

The Examiner's attention is further directed to, for example, new dependent claim 54. This claim recites the electronic components as being in the casing on a non-display side of the display, emphasizing the nature and structure of the computer according to the present invention. Such arrangement is clearly further not disclosed or suggested by the references cited by the Examiner, as discussed above.

The Examiner's attention is further directed to dependent claim 55, requiring that the at least one of the electronic components to which the fluid-conducting communication communicates is the CPU. Such is also clearly not suggested by the references cited by the Examiner.

In view of the above, it is submitted that all of the claims that are now pending in this application clearly patentably distinguish over all of the references cited by the Examiner. Accordingly, allowance of the application as a whole is respectfully requested.

The Examiner is requested to pass the case to issue. If the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact Applicant's undersigned representative.

Respectfully submitted,

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